

Serial No.: 09/998,080

B1
Concl'd
Sub
C1
Concl'd

reactant vapor species comprising the Group III metal and nitrogen. The reactant vapor species is deposited on the growth surface to produce a single-crystal M^{III}N layer thereon. In one aspect, the single-crystal M^{III}N layer is grown as a thin film, i.e., with a thickness of approximately 10 to 10,000 nm (.01 to 10 microns), for use as a seed crystal upon which a bulk, second M^{III}N layer can be grown. In another aspect, growth of the M^{III}N layer is permitted to continue beyond the thin film range until its thickness is sufficient to ensure that the resulting bulk crystal has a low enough defect density to be considered as device-quality. In a further aspect, the M^{III}N layer is grown to a bulk thickness and the template material is removed, thereby providing a free-standing, single-crystal M^{III}N article having a diameter of approximately 0.5 inch or greater and a thickness of approximately 50 microns or greater. — —

IN THE CLAIMS:

Please cancel claims 15 and 25 ~~31~~.

Please amend claims 1, 18 – 24, 32, 33, 37 – 40 and 44 as follows:

- B2
Sub
C2
1. (Amended) A method for producing a single-crystal M^{III}N article comprising the steps of:
 - (a) providing a template material having an epitaxial-initiating growth surface;
 - (b) sputtering a Group III metal target in a plasma-enhanced environment to produce a Group III metal source vapor;
 - (c) combining the Group III metal source vapor with a nitrogen-containing gas to produce a reactant vapor species comprising Group III metal and nitrogen; and
 - (d) depositing the reactant vapor species on the growth surface to produce a single-crystal M^{III}N layer thereon having a thickness of greater than approximately 10 microns.
 18. (Amended) The method according to claim 59 wherein the M^{III}N article is provided in a form selected from the group consisting of intrinsic M^{III}N,
- B3